IN THE CLAIMS

Please delete all prior lists of claims and insert the following list of claims:

1. (CURRENTLY AMENDED) A targeting device for detecting a location and position within a hollow object having an opening, the device comprising:

a. a magnet adapted to be positioned within the opening of the hollow object, the magnet providing a **magnetic field having a shape comprised of a** directional field and having a three-dimensional orientation on an x-axis, a y-axis and a z-axis; ~~and~~

b. a target including a sensor for sensing the three-dimensional orientation of the magnet wherein the sensor **comprises an array of sensors** ~~is~~ dimensioned and configured to detect the x-axis, the y-axis, and the z-axis, and **wherein the array is configured to correspond to the magnetic field shape such that each sensor in the array is excited by a same magnitude and a same angle of flux when centered about the z-axis of the magnet; and**

c. a display for displaying the three-dimensional orientation of the magnet.

2. (CURRENTLY AMENDED) The targeting device of claim 1 wherein the ~~magnet generates a~~ magnetic field **is** of sufficient strength to be sensed by the sensor of the target.

3. (ORIGINAL) The targeting device of claim 2 wherein the magnetic field is non-uniform.

4. (PREVIOUSLY PRESENTED) The targeting device of claim 3 wherein the magnetic field is non-circular, thereby allowing the sensor to distinguish rotation about the z-axis, and recognize magnetic flux lines perpendicular from the magnet which indicate the position of the magnet.

5. (ORIGINAL) The targeting device of claim 1 wherein the magnet is cylindrical in shape.

6. (ORIGINAL) The targeting device of claim 1 wherein the magnet has a diameter less than about 4mm.

7. (ORIGINAL) The targeting device of claim 1 wherein the magnet is a Neodymium Iron Boron (NdFeB) magnet polarized perpendicular to its long axis.

8-9. (CANCELED)

10. (PREVIOUSLY PRESENTED) The targeting device of claim 1 wherein the display is a readable display.

11. (PREVIOUSLY PRESENTED) The targeting device of claim 1 wherein the sensor comprises an elliptical array of four pairs of sensors.

12. (PREVIOUSLY PRESENTED) The targeting device of claim 11 wherein the sensors sense different outputs between the sensors relative to different spatial positions of each sensor from the magnet.

13. (CANCELED)

14. (PREVIOUSLY PRESENTED) The targeting device of claim 10 wherein the readable display comprises several Light Emitting Diodes (LEDs), each LED being activated and/or inactivated as the sensors align with the magnet.

15. – 17. (CANCELED)

18. (PREVIOUSLY PRESENTED) The targeting device of claim 1 further comprising at least one drill sleeve for receiving and aligning a drill bit on an interlocking transverse screw hole in the hollow object.

19. (WITHDRAWN-CURRENTLY AMENDED) A method for detecting a precise location and position within a hollow object having an opening, the method comprising:

a. inserting and positioning a magnet in the opening of the object at a discrete position in the object, wherein the magnet **provides a magnetic field having a shape comprised of a directional field and** ~~has~~ a three-dimensional orientation on an x-axis, a y-axis and a z-axis;

b. providing a targeting device on the discrete position of the magnet, **wherein** the targeting device **comprises** ~~comprising~~ a sensor for locating the three-dimensional orientation of the magnet, wherein the sensor **comprises an array of sensors** ~~is~~ dimensioned and configured to detect the x-axis, the y-axis, and the z-axis, **wherein the array is configured to correspond to the magnetic field shape such that each sensor in the array is excited by a same magnitude and a same angle of flux when centered about the z-axis of the magnet,** ~~wherein the sensor further comprises an elliptical array of four pairs of sensors;~~ and **wherein the targeting device further comprises** a display for displaying the sensing means in relation to the magnet; and

c. moving the targeting device along the object until the sensor senses the three-dimensional orientation of the magnet.

20. (WITHDRAWN) The method of claim 19, comprising aligning at least one drill sleeve of the targeting device at a discrete position on the external surface of the object, the drill sleeve having an axis for alignment.

21. (WITHDRAWN) The method of claim 19, wherein the magnet provides a non-uniform magnetic field.

22. (WITHDRAWN) The method of claim 19, wherein the magnet provides a non-circular magnetic field, thereby allowing the sensor to distinguish rotation about the z-axis, and recognize magnetic flux lines perpendicular from the magnet which indicate the position of the magnet.

23-27. (CANCELED)

28. (WITHDRAWN) The targeting device method of claim 19 wherein the magnetic flux lines of the magnet are displayed on a readable display.

29. (CANCELED)

30. (WITHDRAWN) The method of claim 19 wherein the sensors sense different outputs between the sensors relative to different spatial positions of each sensor from the target magnet.

31. (WITHDRAWN) The method of claim 19 wherein the sensor in relation to the magnet is displayed on a readable display.

32. (WITHDRAWN) The method of claim 31 wherein the readable display comprises several LEDs, each LED being activated and/or inactivated as the sensors align with the magnet.

33. (WITHDRAWN) The method of claim 19 for internal fixation of long bones, wherein the hollow object is an intramedullary nail, the intramedullary nail having a longitudinal opening and screw holes.

34. (CURRENTLY AMENDED) A targeting device for percutaneously detecting screw openings within an intramedullary nail for internal fixation of long bones, wherein the intramedullary nail has a longitudinal opening and screw holes, the targeting device comprising:

a. a magnet adapted to be positioned within the longitudinal opening of the intramedullary nail, the magnet providing **a magnetic field having a shape comprised of** a directional field and having a three-dimensional orientation on an x-axis, a y-axis and a z-axis; and

b. a target comprising a sensor for sensing the three-dimensional orientation of the magnet, wherein the sensor **comprises an array of sensors** ~~is~~ dimensioned and configured to detect the x-axis, the y-axis, and the z-axis, and wherein the array is configured to correspond to the magnetic field shape such that each sensor in the array is excited by a same magnitude and a same angle of flux when centered about the z-axis of the magnet; ~~the sensor comprising an elliptical array of four pairs of sensors wherein the sensors sense different outputs between the sensors relative to different spatial positions of each sensor from the magnet,~~ and

c. a display for displaying the orientation of the sensor.

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35 - 36. (CANCELED)

37. (PREVIOUSLY PRESENTED) The targeting device of claim 34 further comprising at least one drill sleeve for receiving and aligning a drill bit on a interlocking transverse screw hole within the intramedullary nail.

38. (CANCELED)

39. (PREVIOUSLY PRESENTED) The targeting device of claim 34 further comprising two drill sleeves for receiving and aligning a drill bit on the screw holes of the intramedullary nail.

40. (PREVIOUSLY PRESENTED) The targeting device of claim 34 wherein the magnet is fixedly positioned within the opening of the intramedullary nail at a discrete position adjacent to the transverse interlocking screw hole.

41. (PREVIOUSLY PRESENTED) The targeting device of claim 34 wherein the magnet is positioned on an insertion rod for positioning within the intramedullary nail to a discrete position proximal to the screw holes.

42. (PREVIOUSLY PRESENTED) The targeting device of claim 34 wherein the magnet generates a flux field sufficient to be sensed by the sensor of the target device.

43. (ORIGINAL) The targeting device of claim 34 wherein the magnetic field is non-uniform.

44. (CURRENTLY AMENDED) ~~A~~ The targeting device of claim 34, ~~for percutaneously detecting screw openings within an intramedullary nail for internal fixation of long bones, wherein the intramedullary nail has a longitudinal opening and screw holes, the targeting device comprising:~~

~~a. a magnet adapted to be positioned within the longitudinal opening of the intramedullary nail, the magnet providing a directional field and having a three-dimensional orientation on an x-axis, a y axis and a z axis; and~~

~~b. a target comprising a sensor for sensing the three-dimensional orientation of the magnet, the sensor comprising an elliptical array of four pairs of sensors, and a display for displaying the orientation of the sensor,~~ wherein the directional field is sensed by the sensor at a distance of about 10 cm.

45. (CURRENTLY AMENDED) ~~A~~ The targeting device of claim 34, ~~for percutaneously detecting screw openings within an intramedullary nail for internal fixation of long bones, wherein the intramedullary nail has a longitudinal opening and screw holes, the targeting device comprising:~~

~~a. a magnet adapted to be positioned within the longitudinal opening of the intramedullary nail, the magnet providing a directional field and having a three-dimensional orientation on an x-axis, a y axis and a z-axis,~~ wherein the magnet is cylindrical in shape~~,~~ with a diameter of less than about 4mm~~; and~~

~~b. a target comprising a sensor for sensing the three-dimensional orientation of the magnet, the sensor comprising an elliptical array of four pairs of sensors, and a display for displaying the orientation of the sensor~~.

46. (PREVIOUSLY PRESENTED) The targeting device of claim 34 wherein the magnet is a cylindrical Neodymium Iron Boron (NdFeB) magnet polarized perpendicular to its long axis.

47. (PREVIOUSLY PRESENTED) The targeting device of claim 34 wherein the sensor detects the magnet's magnetic flux lines.

48. (CANCELED)

49. (PREVIOUSLY PRESENTED) The targeting device of claim 34 wherein the display is a readable display.

50. (PREVIOUSLY PRESENTED) The targeting device of claim 37 comprising a handle holding the sensor and the drill sleeve.

51. (PREVIOUSLY PRESENTED) The targeting device of claim 39 comprising a handle holding the sensor and the drill sleeves.

52. (CANCELED)

53. (CANCELED)

54. (PREVIOUSLY PRESENTED) The targeting device of claim 34 wherein the display comprises a readable LED display for displaying the sensors in relation to the magnet.

55. (PREVIOUSLY PRESENTED) The targeting device of claim 54 wherein the readable LED display comprises several LEDs, each LED being activated and/or inactivated as the sensors align with the magnet.

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56. (WITHDRAWN-CURRENTLY AMENDED) A method for detecting interlocking transverse screw holes within an intramedullary nail, wherein the intramedullary nail includes a longitudinal opening and interlocking screw holes, the method comprising:

a. inserting and positioning a magnet having a three-dimensional orientation in the opening of the intramedullary nail to a discrete position proximal to the transverse interlocking screw hole opening**, wherein the magnet provides a magnetic field having a shape comprised of a directional field and a three-dimensional orientation on an x-axis, a y-axis, and a z-axis**;

b. providing a targeting device ~~removed from~~ to the intramedullary nail, wherein the targeting device comprises a sensor for sensing the three-dimensional orientation of the magnet**,** wherein the sensor **comprises an array of sensors** ~~is~~ dimensioned and configured to detect the x-axis, the y-axis, and the z-axis, **wherein the array is configured to correspond to the magnetic field shape such that each sensor in the array is excited by a same magnitude and a same angle of flux when centered about the z-axis of the magnet,** and **wherein the targeting device further comprises** a display means for displaying the sensing means in relation to the magnet; and

c. moving the targeting device along the intramedullary nail until the sensor senses the three-dimensional orientation of the magnet.

57. (WITHDRAWN) The method of claim 56 comprising aligning at least one drill sleeve of the targeting device at a position on the intramedullary nail, the drill sleeve having an axis for alignment.

58. (WITHDRAWN) The method of claim 56 comprising aligning the sensor with the magnet and screw openings while simultaneously and in real time monitoring the position of the drill sleeve in relation to the transverse interlocking screw hole.

59. (WITHDRAWN) The method of claim 57 comprising advancing a drill bit through at least one drill sleeve while maintaining alignment in real time.

60. (WITHDRAWN) The method of claim 56 comprising attaching the magnet to an insertion rod.

61. (WITHDRAWN) The method of claim 60 comprising inserting the insertion rod into the opening of the intramedullary nail in a specified orientation to a locking point at the most distal interlocking screw hole.

62. (WITHDRAWN) The method of claim 56 comprising placing the magnet in the intramedullary nail at a point proximal to the interlocking screw hole.

63. (WITHDRAWN) The method of claim 56 comprising fixing the position of the magnet with a locking pin.

64. (WITHDRAWN) The method of claim 56 comprising applying the targeting device percutaneously to the approximate region of the interlocking screw hole.

65. (WITHDRAWN) The method of claim 56 comprising detecting magnetic flux lines of the magnet to identify the position of the magnet location.

66. (WITHDRAWN) The method of claim 56 wherein the interlocking screw hole is a transverse interlocking screw hole.

67. (NEW) The targeting device of claim 1 wherein the array of sensors comprises aligned, opposing pair members.

68. (NEW) The method of claim 19 wherein the array of sensors comprises aligned, opposing pair members.

69. (NEW) The targeting device of claim 34 wherein the array of sensors comprises aligned, opposing pair members.

70. (NEW) The method of claim 56 wherein the array of sensors comprises aligned, opposing pair members.

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